

AMENDMENTS TO THE CLAIMS

Claims 1-6, 11, 12, 16-24, 36 and 38-56 are presently pending in this application. Claim 46 is amended herein and claims 50-56 are added herein. This listing of claims replaces all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Previously presented) A method to treat neovascular disease of the eye, comprising:

administering a conjugate comprising a photosensitizing compound conjugated to a targeting moiety that selectively binds to abnormal endothelium that lines or composes neovascular target tissue in the eye;

allowing sufficient time to permit the non-specifically bound conjugate to clear from non-target tissue; and

illuminating the neovascular tissue with light including a wavelength corresponding at least in part with the characteristic light absorption wavelength of the photosensitizing compound for a period of time sufficient to activate the photosensitizing compound; wherein:

a combination of an intensity of light used for the step of illuminating and a duration of illumination is selected to produce a total fluence of irradiation such that the neovascular target tissue is destroyed and the non-target tissue through which the light passes remains undamaged.

2. (Previously presented) The method of claim 1, wherein the light is non-coherent light.

3. (Previously presented) The method of claim 1, wherein the light is coherent light.

4. (Previously presented) The method of claim 1, wherein the neovascular tissue is present in retina, choroid or both.

5. (Original) The method of claim 1, wherein the treated neovascular disease is diabetic retinopathy.

6. (Original) The method of claim 1, wherein the treated neovascular disease is macular degeneration.

Claims 7 - 10 (Cancelled)

11. (Previously presented) The method of claim 1, wherein the targeting moiety is a first member of a binding pair and wherein a second member of the binding pair is selected from the group consisting of a receptor present on abnormal endothelium; a ligand bindable to a receptor present on abnormal endothelium; an antigen present on abnormal endothelium; and an antibody bindable to an antigen present on abnormal endothelium.

12. (Previously presented) The method of claim 11, wherein the conjugate is incorporated into a liposomal preparation.

Claims 13 -15 (Cancelled)

16. (Previously presented) The method of claim 1, wherein the targeting moiety is a bi-specific antibody construct that further comprises both a ligand component and a receptor component.

17. (Previously presented) The method of claim 16, wherein the conjugate is incorporated into a liposomal preparation.

18. (Previously presented) The method of claim 1, wherein the photosensitized neovascular tissue is illuminated for at least 4 minutes.

19. (Previously presented) The method of claim 1, wherein the photosensitized neovascular tissue is illuminated for at least 20 minutes.

20. (Previously presented) The method of claim 1, wherein the photosensitized neovascular tissue is illuminated for at least 1 hour.

21. (Previously presented) The method of claim 1, wherein the photosensitized neovascular tissue is illuminated for at least 24 hours.

22. (Previously presented) The method of claim 1, wherein the neovascular tissue is treated with a total fluence of light irradiation from between about 240 J/cm² to about 900 J/cm².

23. (Previously presented) The method of claim 2, wherein the non-coherent light source is a light emitting diode.

24. (Previously presented) The method of claim 2, wherein the non-coherent light source is ambient light.

Claims 25 - 35 (Cancelled)

36. (Original) A method of instructing a person to treat neovascular disease of the eye, comprising instructing a person to conduct a method according to claim 1.

37. (Cancelled)
38. (Previously presented) The method of claim 1, wherein the targeting moiety is an antibody that binds to a VEGF receptor.
39. (Previously presented) The method of claim 1, wherein the targeting moiety is VEGF.
40. (Previously presented) The method of claim 1, wherein the targeting moiety is a VEGF receptor.
41. (Previously presented) The method of claim 1, wherein the photosensitizing compound is a chlorin.
42. (Previously presented) The method of claim 1, wherein the photosensitizing compound is selected from the group consisting of chlorins, bacteriochlorophylls, phthalocyanines, porphyrins, purpurins, merocyanines, psoralens, benzoporphyrin derivatives (BPD), porfimer sodium, δ-aminolevulinic acid protoporphyrin, indocyanine green (ICG), methylene blue, toluidine blue, texaphyrins, pyropheophorbide compounds, bacteriochlorophyll derivatives, alkyl ether analogs of chlorins, verteporfin and benzoporphyrin derivatives.
43. (Previously presented) The method of claim 1, wherein the photosensitizing compound is verteporfin or texaphyrin.
44. (Previously presented) The method of claim 1, wherein the photosensitizing compound is indocyanine green.
45. (Previously presented) The method of claim 1, wherein a combination of an intensity of light of less than 500 mW/cm² and a duration of illumination of at least 4 minutes is selected to produce a total fluence of light irradiation from between about 30 J/cm² to about 25,000 J/cm².
46. (Amended herein) A method to treat neovascular disease of the eye, comprising:

administering a targeted photosensitizing compound that selectively binds to abnormal endothelium that lines or composes neovascular tissue in the eye;
allowing sufficient time to permit the non-specifically bound conjugate to clear from non-target tissue; and

illuminating the neovascular tissue with light for a period of time sufficient to activate the photosensitizing compound thereby causing damage to neovascular tissue, but without impairing or destroying other tissue, wherein

a combination of an intensity of light used for the step of illuminating and a duration of illumination is selected to produce a total fluence of irradiation such that the neovascular tissue is destroyed and the non-target tissue through which the light passes remains undamaged, wherein

the neovascular tissue is treated with a total fluence of light irradiation from between about 240 J/cm² to about 900 J/cm².

47. (Previously presented) The method of claim 46, wherein the light is non-coherent light.

48. (Previously presented) The method of claim 47, wherein the non-coherent light source is a light emitting diode.

49. (Previously presented) The method of claim 47, wherein the non-coherent light source is ambient light.

50. (New) The method of claim 46, wherein the photosensitizing compound is incorporated into a liposome.

51. (New) The method of claim 50, wherein a ligand, receptor or bispecific construct is incorporated in or attached to the liposome.

52. (New) A method to treat neovascular disease of the eye, comprising:
administering a conjugate comprising a photosensitizing compound selected from among chlorins, bacteriochlorophylls, phthalocyanines, porphyrins, purpurins, merocyanines, psoralens, porfimer sodium, δ-aminolevulinic acid protoporphyrin, indocyanine green (ICG), methylene blue, toluidine blue, texaphyrins, pyropheophorbide compounds, and verteporfin conjugated to a targeting moiety selected from among VEGF ligand, VEGF receptor, antibody or antibody fragment that binds to VEGF receptor, a complete or functional bindable fragment of human antibody L19, αvβ3 integrin, the extra-domain B of fibronectin or carcinoembryonic antigen (CEA);

allowing sufficient time to permit the non-specifically bound conjugate to clear from non-target tissue; and

illuminating the neovascular tissue with light including a wavelength corresponding at least in part with the characteristic light absorption wavelength of the photosensitizing compound for a period of time sufficient to activate the photosensitizing compound; wherein:

a combination of an intensity of light used for the step of illuminating and a duration of illumination is selected to produce a total fluence of irradiation such that the neovascular target tissue is destroyed and the non-target tissue through which the light passes remains undamaged; and

the neovascular tissue is treated with a total fluence of light irradiation from between about 240 J/cm² to about 900 J/cm².

53. (New) The method of claim 50, wherein the light is non-coherent light.
54. (New) The method of claim 50, wherein the light is coherent light.
55. (New) The method of claim 50, wherein the neovascular tissue is present in retina, choroid or both.
56. (New) The method of claim 50, wherein the photosensitized neovascular tissue is illuminated for a time interval of between 4 minutes and 72 hours.